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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/695,871 | 10/30/2003 | Yoshihiko Nagata | 117639 | 6676 |

25944 7590 10/11/2005
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EXAMINER

ROSASCO, STEPHEN D

ART UNIT PAPER NUMBER

1756

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,871

Applicant(s)

NAGATA, YOSHIHIKO

Examiner

Stephen Rosasco

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1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/01/03</u> | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Applicant's election without traverse of Group I (clsim 1-4) in the reply filed on 8/24/05 is acknowledged.

The foreign prior art listed on the IDS was not considered, as there was no abstract or copy of the reference in the file.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Matsukura et al. (6,548,129).

Claims 3-4 recite the limitation that the pellicle is to be used to make a LCD. This is an intended use and is not considered as a limitation for article claims.

Matsukura et al. teach a method of producing a pellicle membrane from the polymer solution, a method of forming a thin membrane of the polymer on a substrate by means of several coating methods from the solution, such as roll coating, casting, dip coating, spin coating, water casting, die coating or Langmuir Blodgett, may be employed. The thickness of the membrane is usually selected within a range of from 0.01 to 50 μm . In the case of a pellicle membrane, extremely strict membrane thickness control is required, and therefore it is more

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preferred to employ spin coating. As the substrate, preferred is a silicon wafer, quartz glass or the like having a smooth surface.

Matsukura et al. also teach [0014] The pellicle of the present invention is particularly suitable as a pellicle for a photolithographic patterning process by means of a light having a wavelength of at most 180 nm, which is a light having a wavelength shorter than that of an ArF excimer laser light. Specifically, it is suitable as a pellicle for a photolithographic patterning process by means of a Fsub2 excimer laser light having a wavelength of 157 nm.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsukura et al. (6,548,129) in view of Shirasaki (6,593,034).

The claimed invention is directed to a pellicle for lithography which has at least, a pellicle film for dustproof protection, a pellicle frame to which the pellicle film is adhered, an adhesive layer provided on one end face of the pellicle frame in order to adhere the pellicle film, and a sticking layer formed on another end face of the pellicle frame, wherein the pellicle film is formed by a die coating machine.

And wherein an area of the pellicle film is 1000 cm.² or more, and a distribution of a thickness of the film in plane is within +-10%.

And the method for producing a pellicle film comprising at least a process of dissolving a raw material of a pellicle film in a solvent to prepare an application liquid, a process of coating a substrate with the application liquid, and a process of drying the substrate to which the application liquid is applied, wherein the coating process is carried out with a die coating machine.

Matsukura et al. teach a method of producing a pellicle membrane from the polymer solution, a method of forming a thin membrane of the polymer on a substrate by means of several coating methods from the solution, such as roll coating, casting, dip coating, spin coating, water casting, die coating or Langmuir Blodgett, may be employed. The thickness of the membrane is usually selected within a range of from 0.01 to 50 μm . In the case of a pellicle membrane, extremely strict membrane thickness control is required, and therefore it is more preferred to employ spin coating. As the substrate, preferred is a silicon wafer, quartz glass or the like having a smooth surface.

Matsukura et al. also teach [0014] The pellicle of the present invention is particularly suitable as a pellicle for a photolithographic patterning process by means of a light having a wavelength of at most 180 nm, which is a light having a wavelength shorter than that of an ArF excimer laser light. Specifically, it is suitable as a pellicle for a photolithographic patterning process by means of a Fsub2 excimer laser light having a wavelength of 157 nm.

The teachings of Matsukura et al. differ from those of the applicant in that the applicant teaches that the pellicle is to be used to make an LCD.

Shirasaki teach that FIG. 2 is a schematic vertical cross sectional view of the inventive framed pellicle mounted on a photomask 5 and secured at the position by means of a pressure-

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sensitive adhesive layer 4. Like the conventional framed pellicle illustrated in FIG. 1 by a vertical cross sectional view, the framed pellicle of the invention consists of a pellicle frame 2 made from a rigid material and a thin, highly transparent pellicle membrane 1 of a plastic resin film bonded to one of the end surfaces of the pellicle frame 2 with intervention of an adhesive layer 3 therebetween.

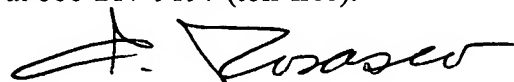
Shirasaki also teaches that the pellicle is to be used in the manufacturing processes of LSIs, VLSIs, liquid crystal display panels and the like.

Therefore, it would have been obvious to one having ordinary skill in the art to take the teachings of Matsukura et al. and combine them with the teachings of Shirasaki in order to make the claimed invention because it is well known in the art to use pellicles in photolithography to make LCD as shown by Shirasaki.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Stephen Rosasco whose telephone number is (571) 272-1389. The Examiner can normally be reached Monday-Friday, from 8:00 AM to 4:30 PM. The Examiner's supervisor, Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Rosasco
Primary Examiner
Art Unit 1756

S. Rosasco
10/03/05